
Description

The QPC422 Tone Detector Card is a peripheral equipment (PE) circuit card designed to detect call progress tones. Call progress tones are used by the Meridian 1 to do the following:

- control digit outpulsing to special common carriers (SCCs)
- improve call setup reliability
- avoid unnecessary delays in tandem tie trunk network (TTTN) applications

The following features are affected as a result of call progress tone detection:

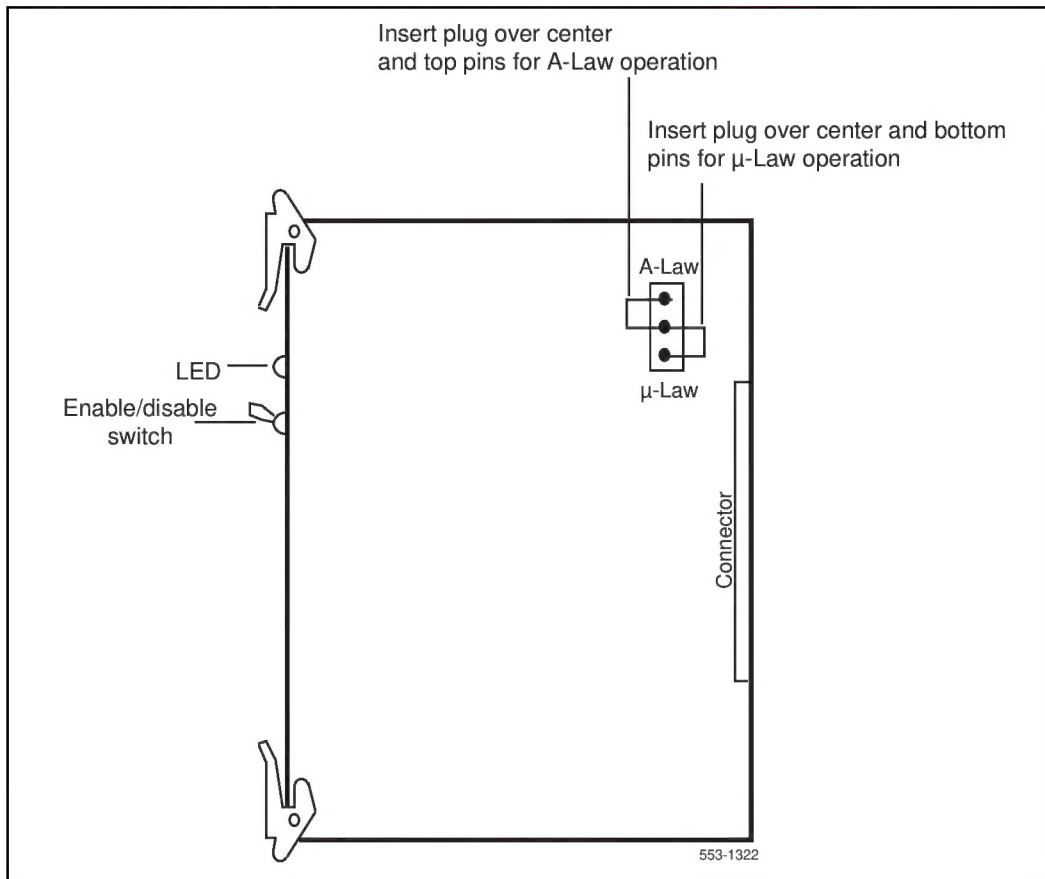
- Basic Automatic Route Selection (BARS)
- Network Automatic Route Selection (NARS)
- Coordinated Dialing Plan (CDP)
- Network Speed Calling (NSC)

Physical description

The tone detector card is a double-sided printed circuit board assembly housed in peripheral equipment shelves or NT8D13 PE Modules. An enable/disable switch and a light emitting diode (LED) are located on the faceplate of the card.

A-law or μ -law operation for the tone detector card is set with a jumper plug on the component side of the card. **Figure 1** shows the jumper plug options.

Figure 1
Jumper plug options



Functional description

Each tone detector card contains two tone detector units controlled by two microprocessors that run independently of each other. The main functions of the microprocessors are as follows:

- interpret messages from, and report results to, the CPU
- perform waveform analysis to obtain frequency, amplitude, and cadence characteristics of the tones received
- provide a self-test capability

A tone detector card can detect progress tones for two simultaneous calls. The tone detector card identifies the following tones and reports them to the CPU:

- precise dial tone: a dual tone of 440 ± 50 Hz + 350 ± 50 Hz and a duration of ≥ 200 ms
- special common carrier (SCC) dial tone: a single tone of 400 ± 50 Hz and a duration of ≥ 200 ms
- precise busy tone: 620 ± 50 Hz + 480 ± 50 Hz and one complete cadence of 500 ± 100 ms
- precise overflow tone:
 - 620 ± 50 Hz + 480 ± 50 Hz and one complete cadence of 250 ± 50 ms
 - or
 - 620 ± 50 Hz + 480 ± 50 Hz and two complete cadences of 250 ± 100 ms
- imprecise busy tone: two complete cadences of 500 ± 100 ms
- imprecise overflow tone: two complete cadences of 250 ± 50 ms
- ringback tone:
 - one tone cadence of 2 s +500/–750 ms
 - or
 - one silent cadence of 4 s +750/–500 ms
- a tone with a signal duration of 100 ms or more

- a tone with a signal duration of less than 350 ms
- a tone with a signal duration of greater than 350 ms
- an unidentified tone (after three attempts)
- silence (reported when requested while the unit is active and a specific tone is not yet located)

Software requirements

The QPC422 Tone Detector card is no longer used with the Special Common Carrier Package software (Package 66). The current Tone Detector Package is Package 65.

The QPC422 Tone Detector is used with the Automatic Trunk Maintenance feature (Package 84). Therefore, to implement the Automatic Trunk Maintenance feature using the QPC422 Tone Detector, both Package 65 and Package 84 are required.